

## WHAT IS CLAIMED IS:

1. An isolated microorganism strain, *Lactobacillus paracasei* GM-080, deposited at the China Center for Type Culture Collection under CCTCC No.: CCTCC M 204012.
- 5 2. A composition comprising the microorganism strain according to Claim 1.
3. The composition according to Claim 2, which is used for stimulating IFN- $\gamma$  secretion.
- 10 4. The composition according to claim 2, which is used for treating allergy related disease.
- 15 5. The composition according to Claim 4, wherein the allergy related disease is selected from the group consisting of airway hyperreactivity and inflammation, atopic dermatitis, allergic conjunctivitis, rhinitis, sinusitis, hypersensitive pneumonia, extrinsic allergic alveolitis, urticaria, eczema, anaphylaxis, angioedema, allergic and migraine headache, certain gastrointestinal disorders, and asthma.
6. The composition according to Claim 5, wherein the allergy related disease is airway hyperreactivity or inflammation.
- 20 7. The composition according to Claim 4, wherein the allergy related disease is associated with exposure to aeroallergen.
8. The composition according to Claim 2, wherein the microorganism strain is live or inactivated.
9. The composition according to Claim 8, wherein the microorganism strain is inactivated.
- 25 10. The composition according to Claim 2 in the form of a pharmaceutical composition, dietary supplement, food, or the component

thereof.

11. A method for stimulating IFN- $\gamma$  secretion in a subject comprising administering said subject with a composition comprising the isolated microorganism according to Claim 1.

5 12. The method according to Claim 11, wherein the microorganism strain is live or inactivated.

13. The method according to Claim 12, wherein the microorganism strain is inactivated.

10 14. A method for treating an allergy related disease in a subject comprising administering said subject with a composition comprising the isolated microorganism according to Claim 1.

15 15. The method according to Claim 14, wherein the allergy related disease is airway hyperreactivity and inflammation, atopic dermatitis, allergic conjunctivitis, rhinitis, sinusitis, hypersensitive pneumonia, extrinsic allergic alveolitis, urticaria, eczema, anaphylaxis, angioedema, allergic and migraine headache, certain gastrointestinal disorders, or asthma.

16. The method according to Claim 15, wherein the allergy related disease is airway hyperreactivity or inflammation.

20 17. The method according to Claim 14, wherein the allergy related disease is associated with exposure to aeroallergen.

18. The method according to Claim 14, wherein the microorganism strain is live or inactivated.